

EPA Superfund Explanation of Significant Differences:

**TIMES BEACH
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EXPLANATION OF SIGNIFICANT DIFFERENCES

INTRODUCTION

As provided by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, the Environmental Protection Agency (EPA) is today issuing an Explanation of Significant Differences (ESD) for the final management of dioxin-contaminated soil and uncontaminated structures and debris at Times Beach, Missouri. EPA serves as the lead agency for this project, with support from the Missouri Department of Natural Resources.

CERCLA section 117(c) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 55 FR 8852 (March 8, 1990) (to be codified 40 CFR 300.435(c)(2)(i)(1990)) provide that after adoption of a final remedial action plan, if any settlement or consent decree under section 106 or section 122 is entered into, and if such action, settlement or decree differs in any significant respects from the final plan, the lead agency shall publish an explanation of the significant differences and the reasons such changes were made.

Due to information which has developed during the course of settlement discussions, EPA has determined that significant changes are necessary to components of the selected remedy, as described in the September 29, 1988 Times Beach Record of Decision (ROD). The changes to the remedy are the result of pre-design evaluations performed to assure the cost-effective implementation of the remedy and attainment of remedial action goals.

Components of the selected remedy which are impacted include the cleanup level, soil cover installation procedure, sources of material to be transported to Times Beach for thermal treatment, delisting procedure, and site definition. These changes may affect, to some degree, the overall scope, performance, or cost of the remedy, as explained below. The changes will not alter the fundamental features of the selected remedy.

This ESD will be included in the Administrative Record file. The Administrative Record is available for public review at the EPA Public Information Center located immediately east of the Times Beach site at 97 North Outer Road at Lewis Road. Additional information may be obtained by contacting the local EPA Public Information Center at (314) 938-6869, or the EPA Office of Public Affairs in Kansas City, Kansas at (913) 551-7003 (toll free 1-800-223-0425).

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

Times Beach was formerly an incorporated city located in southwest St. Louis County, approximately 20 miles southwest of the City of St. Louis. The site encompasses about 0.8 square miles, bordered on the north and east by the Meramec River, on the south by unincorporated areas of Jefferson County, and on the west by the City of Eureka. Much of the site is located in the five-year flood plain of the Meramec River.

Prior to the discovery of contamination, land use at Times Beach was predominantly residential, with minimal commercial development, and no industry. The surrounding areas have a mixture of residential and agricultural uses.

Contamination of the site occurred in the early 1970's when waste oil contaminated with dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) was sprayed on roadways for dust control. Investigations performed at Times Beach indicate that the contamination has remained limited to surface soils along roadways. Concentrations of dioxin greater than 20 parts per billion (ppb) have been detected on approximately 15,000 feet of roadways. Recent sampling indicates that about 13,600 cubic yards of soil is contaminated at levels above 20 ppb.

In 1983, EPA transferred approximately \$30 million in CERCLA (Superfund) funds to the Federal Emergency Management Agency (FEMA) for the permanent relocation of Times Beach residents and Businesses.

A Record of Decision (ROD) was issued by the United States Environmental Protection Agency (EPA) on September 29, 1988, which selected a remedy to be implemented at the Times Beach site. The selected remedy includes excavation of soils exceeding 20 ppb dioxin. These soils and previously excavated soils currently in interim storage at the Minker/Stout/Romaine Creek are to be thermally treated using a temporary thermal treatment unit located at Times Beach. Thermal treatment has been demonstrated to safely and effectively destroy dioxin contamination in soil.

The Record of Decision considered the need for management of dioxin-contaminated soils at a group of related sites in eastern Missouri. The ROD establishes that the temporary thermal treatment unit at Times Beach could be used to treat soils at these related sites. Following treatment of dioxin-contaminated soils from the related sites, the temporary thermal treatment unit will be permanently removed from Times Beach.

The selected remedy also includes placement of a one-foot soil cover over portions of the site exceeding 1 ppb, and demolition and onsite disposal of treatment residues and the

structures and debris remaining at Times Beach.

DESCRIPTION OF SIGNIFICANT DIFFERENCES

CLEAN UP LEVEL

The selected remedy for Times Beach includes the excavation and thermal treatment of contaminated soils over 20 ppb at Times Beach. The 20 ppb cleanup level was established for protection of public health and the environment for anticipated future non-residential land use. During the public comment period for the Times Beach Proposed Plan, the State of Missouri requested that EPA consider a clean up level of 10 ppb at Times Beach. This cleanup level would effectively achieve residential criteria for the site, although future residential development is not anticipated at this time.

During settlement discussions subsequent to issuance of the ROD, it was agreed that soils exceeding 5-10 ppb at Times Beach will be excavated and thermally treated, consistent with prior correspondence with CDC/ATSDR and the Missouri Department of Health indicating that the 5-10 ppb cleanup level under one foot of clean fill is equivalent to a 1 ppb cleanup level. The additional volume of soil which will be excavated and thermally treated will not add significantly to the overall cost or duration of the remedy. The selected remedy includes excavation of approximately 13,600 cubic yards (cy) at Times Beach, and thermal treatment of this soil, and an additional 14,200 cy of dioxin-contaminated soil currently in interim storage at the Minker/Stout/Romaine Creek site. The total soil volume from the designated eastern Missouri dioxin sites is estimated at approximately 100,000 cubic yards, or less. Lowering the action level at Times Beach to 5-10 ppb would add approximately 4,000 cubic yards of soil to this total volume.

SOIL INVERSION

The selected remedy for Times Beach includes placement of a one-foot soil cover over areas with dioxin levels above 1 ppb. A soil inversion procedure was proposed during settlement negotiations as a means of providing one foot or more of soil cover. The procedure currently is used for restoration of croplands in certain agricultural regions of the country.

Soil inversion is performed using a specialized piece of equipment which rotates surface soils with underlying clean soils. The equipment used for soil inversion resembles a conventional plow with staggered blades set at varying depths. The procedure results in the replacement at depth of surface soils below a clean layer of previously underlying soils.

The soil inversion technique has the demonstrated capability to achieve the ROD requirement for placement of a one-foot soil cover over surface soils. Additionally, the soil inversion procedure will eliminate drainage problems which would be created at Times Beach by conventional placement of a one-foot soil cover over contaminated roadways. Documentation supporting use of the soil inversion procedure is available in the Times Beach post-ROD Administrative Record file (55 FR 8861, to be codified at 40 CFR 300.825(a)(2)(1990)).

During settlement discussions, it was agreed that soil inversion would be performed at the Times Beach site to provide a one-foot cover over soils exceeding 1 part per billion. This procedure is anticipated to result in cost savings, while enhancing the performance of the remedy by avoiding potential future drainage problems at the site. The duration of the project will not be impacted by this procedure.

LIST OF DESIGNATED SITES

Table 1 appearing in the September 29, 1988 Record of Decision for Times Beach designated twenty-six eastern Missouri dioxin sites (including Times Beach) from which soil may be transported to the Times Beach site for thermal treatment. These twenty six sites became contaminated in the early 1970's as a result of application of similar dioxin-contaminated waste oil for dust control by the same company (Bliss Waste Oil Service), or subsequent movement of the resulting contaminated soil. The EPA will limit the use of the temporary thermal treatment unit at Times Beach to material from those eastern Missouri dioxin sites which became contaminated as a result of these activities.

Subsequent to the Record of Decision, new information became available to EPA which indicated that dioxin-contaminated waste oil may have also been sprayed on the parking area at the Hellwig Fruit Stand in Chesterfield, Missouri. Soil sampling conducted by EPA in October, 1989, confirmed the presence of dioxin in the parking area at this site. Since this site is also located in eastern Missouri and became contaminated by similar application of dioxin-contaminated waste oil for dust control by Bliss Waste Oil Service in the early 1970's, the Hellwig Fruit Stand will be in the list of sites from which contaminated materials will be considered for thermal treatment at Times Beach.

The addition of this site to those considered for treatment at Times Beach is not anticipated to significantly increase the cost or duration of the remedy. Similar to the twenty four sites designated in the Times Beach ROD (excluding Times Beach and Minker/Stout/Romaine Creek), the need for any future response action conducted at the Hellwig Fruit Stand will be based on a site-specific evaluation of contaminant levels and exposure

potential at the site, and will be discussed in a separate decision document for that site.

SITE DEFINITION

CERCLA section 104(d)(4) allows EPA to treat two or more non-contiguous facilities as one site, where the facilities are reasonably related on the basis of either geography or the threat posed to human health and the environment. For the following reasons, EPA has determined that the eastern Missouri dioxin sites designated above are related based on the threat posed, and should be treated as one site for response purposes. Accordingly, the thermal treatment of dioxin-contaminated materials from the designated locations at a single, central location is considered to be an on-site action.

The decision to consider the designated dioxin sites to be one site is based on a review of several factors, consistent with EPA policy discussed in the NCP at 55 FR 8690-91. First, contamination at each of the designated eastern Missouri sites originated from similar dioxin waste obtained from the same source, the Bliss Waste Oil Service. Contamination at each of these locations can effectively be destroyed using the same thermal treatment technology.

Second, EPA has considered the risks associated with transportation of the dioxin-contaminated materials to Times Beach for thermal treatment, and determined that the transportation of these materials to Times Beach does not represent a significant risk. The contaminated materials are relatively immobile in the environment. Any spill of contaminated materials during transport could be immediately and effectively cleaned up and removed. Health risks due to the designated dioxin-contaminated materials are related to long-term exposure, which would not occur as a result of an accidental spill during transport. Adverse health effects due to short-term exposure to these materials would not be of concern, due to the relatively low contaminant levels and brief opportunity for exposure. These low risks will be further reduced by designating haul routes which avoid population centers to the extent possible. Further, the contaminated soils, most of which are containerized in storage bags, will be hauled in plastic-lined truck beds. The plastic liner will be gathered and secured above the contaminated soils, and covered with a tarp which will be tightly fastened to the exterior bed walls.

An opportunity has been provided for the local public near each of the designated eastern Missouri sites to comment on the combined response action. Prior to issuance of the Times Beach Record of Decision, a public comment period was conducted to receive comment on the centralized thermal treatment at Times Beach of the designated eastern Missouri dioxin-contaminated

soils. Comments received during this period were carefully considered during the remedy selection process, and addressed individually in a responsiveness summary accompanying the Record of Decision. The State of Missouri is aware of, and supports, this coordinated approach.

Based on a review of all these factors, EPA has determined that a combined response action for eastern Missouri dioxin sites will be cost-effective and protective of human health and the environment. Thus, EPA has determined that it is appropriate to consider the designated eastern Missouri dioxin locations as a single site for response action purposes. This determination is consistent with considerations published in the preamble to the NCP (55 FR 8688-8691).

The consideration of the designated dioxin sites as one site under CERCLA section 104(d)(4) is significant because it affects the "procedural" requirements that will apply to Superfund actions taken at the aggregated site. On-site actions carried out under CERCLA and the NCP must meet the substantive, -- not administrative -- requirements of other laws (see discussion at 55 FR 8756-57 and 8688-90; and 55 FR 8814, definition of "applicable" requirements, to be codified at 40 CFR 300.5(1990)); instead, the NCP procedures, developed for the Superfund program, will apply.

The EPA still intends for the on-site thermal treatment unit to be operated under a RCRA/Missouri Hazardous Waste Management Law permit, although such a permit is not legally required for an on-site CERCLA action (see CERCLA section 121(e)(1)). The Agency believes that such a step is responsive to concerns voiced by the public during the remedy selection process, and will further public confidence and understanding of the remedy in this case. Specifically, during the public comment period conducted prior to issuance of the Record of Decision, the primary public concern expressed was a limitation on the duration of the project, and preventing dioxin-contaminated material from other parts of the State or country from being transported to Times Beach for thermal treatment. EPA has determined that a RCRA/Missouri Hazardous Waste Management Law permit would provide the public with assurances regarding the duration of the project and sources of materials to be thermally treated at Times Beach.

However, the aggregation of non-contiguous facilities will affect the types of procedures that will be followed for the delisting of the treatment residues, as discussed in the next section.

DELISTING

The Resource Conservation and Recovery Act (RCRA), as amended by the 1984 Hazardous Solid Waste Amendments (HSWA),

regulates the generation, transportation, treatment, storage, and disposal of hazardous wastes. As of July 15, 1986, certain dioxin wastes were added to the list of wastes which are regulated by RCRA.

Residues from the thermal treatment of dioxin wastes are specifically listed under RCRA as hazardous waste F028 (40 CFR 261.32), until "delisted". RCRA allows for the delisting of a hazardous waste when it is demonstrated that the waste "does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste" and for which there is no "reasonable basis to believe that factors (including other constituents) other than those for which the waste was listed could cause the waste to be hazardous waste" (40 CFR 260.22(a)).

The EPA Office of Solid Waste (OSW) has published procedures for preparation and evaluation of delisting petitions, which include: Petitions to Delist Hazardous Waste, EPA/530-SW-85-003, April 1985; 50 FR 4886, November 27, 1985, and 51 FR 41082, November 13, 1986. Since the disposal location for the potentially delisted waste is generally unknown when a delisting petition is reviewed by OSW, these procedures do not take into consideration site-specific conditions of the disposal site. Constituent levels that must be achieved in order for the waste to be considered non-hazardous are generically determined by the results of OSW procedures.

The residues from the Times Beach thermal treatment unit must be delisted prior to disposal at Times Beach, as provided in the ROD. Because the designated dioxin sites have been aggregated under CERCLA section 104(d)(4) and the disposal of those residues is considered to be an on-site action, the delisting of the residues is subject to the procedures of CERCLA and the NCP, rather than those that would apply under RCRA. Thus, the administrative process under RCRA for delisting a waste -- including a formal rulemaking process -- need not be met for Superfund wastes that will remain on-site. See CERCLA Compliance with Other Laws Manual, OSWER Directive 9234.2-01 (August 1988), at p. 1-11 to 1-12.

Instead, a delisting petition has been submitted and reviewed by EPA as part of the CERCLA process, with consideration of programmatic guidance issued by EPA's Office of Solid Waste as well as the Superfund program; that petition has been placed in the administrative record file for public review. Appropriate delisting levels have been established and approved by the EPA Regional Administrator following review of the petition. Since the characteristics and disposal location is known for the on-site Superfund wastes, EPA has taken site-specific conditions into account for the determination of acceptable delisting criteria for these materials. Of course, as with any on-site CERCLA action, the delisting and subsequent disposal of the

residues must meet (or justify a waiver for) all substantive requirements of RCRA and other federal or state environmental laws that are applicable or relevant and appropriate (CERCLA section 121(d)(2)(A)). Final delistable levels will be announced in a fact sheet.

SUPPORT AGENCY COMMENTS

A draft Explanation of Significant Differences was transmitted to the Missouri Department of Natural Resources on March 21, 1990. Comments were received by EPA on July 17, 1990.

The State strongly supports reducing the cleanup level at Times Beach to 10 ppb covered with one foot of soil and inversion of areas with dioxin levels of 1 ppb or greater. The State commented that no surface contamination will remain at the site, and that future operation and maintenance costs would be minimized. The State further commented that since the revised level is equivalent to a residential cleanup, unrestricted access to Times Beach can be allowed, enabling future beneficial use of the site.

AFFIRMATION OF THE STATUTORY DETERMINATION

Considering the new information that has been developed and the changes that have been made to the selected remedy, the lead and support agencies believe that the remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. The remedy also "utilizes permanent solutions and...treatment...to the maximum extent practicable," and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume, as a principal element.

PUBLIC PARTICIPATION ACTIVITIES

The Administrative Record is available for public review and comment at the EPA Public Information Center located immediately east of the Times Beach site. EPA is not at this time reconsidering selection of the remedy at the Site. The lead agency is required to consider comments submitted by interested persons after the close of the public comment period only to the extent that the comments contain significant information not contained elsewhere in the administrative record file which could not have been submitted during the public comment period and which substantially support the need to significantly alter the response action. Comments received by EPA which are responsive to this ESD will be included in the Administrative Record file.

Further, EPA will review the documents received in conjunction with the lodging of the consent decree implementing the remedy selected by EPA (as explained in this ESD).